



Mountain Pine Beetles (*Dendroctonus ponderosae*)

What Is a Mountain Pine Beetle?

The mountain pine beetle, *Dendroctonus ponderosae*, is a native insect to pine forests of western North America and is a member of a group of insects known as bark beetles. Bark beetles range from Canada to Mexico and can be found at elevations from sea level to 11,000 feet. Their entire life cycle is spent beneath the bark of host trees, except when adults emerge from brood trees and fly in search of new host trees. Mountain pine beetles can reproduce in all species of pine within their range. Outbreaks often develop in dense stands of large diameter, older lodgepole pine (*Pinus contorta*) and dense stands of mid-sized ponderosa pine (*Pinus ponderosa*). When weather is favorable for several consecutive years, severe outbreaks can occur in high-elevation stands of whitebark (*Pinus albicaulis*) and limber pine (*Pinus flexilis*). Widespread outbreaks develop over several years and can result in millions of dead trees.



Mountain pine beetle typically attacks the lower 15 feet of a tree. They kill their host trees in a single generation by girdling the phloem (i.e., the living tissue that carries organic nutrients to all parts of the plant where needed). Signs of a mountain pine beetle attack include “pitch tubes” which are made when female beetles bore into the tree’s trunk. Needles on successfully infested trees begin changing color several months to a year after attack (USDA Forest Service 2009).

Why Is Staff Concerned About This Insect?

Park managers are concerned with the infestations of bark beetles that are occurring in Big Hole National Battlefield and throughout much of Montana because these infestations are causing the most widespread tree mortality in recorded history. Evidence suggests that warming temperatures have intensified outbreaks of mountain pine beetle by enabling the beetles to survive the winter even at higher elevations. Earlier snowmelt and warmer temperatures also stress many tree species making them more vulnerable to attack by beetles and more vulnerable to wildfire (UCBN 2011).



Yellow pitch marks a tree attacked by bark beetles.